

Amendments to the Claims

This listing of the claims will replace all prior versions, and listing, of claims in the application or previous response to office action:

Listing of Claims

Claims 1-4 (Cancelled)

5. (Currently amended) A reaction system for the preparation of a fiber reinforced composite according to the pultrusion process comprising:

(a) a reaction mixture comprising an isocyanate reactive composition, a polyisocyanate composition, and optionally one or more additives; and

(b) a continuous fiber reinforcing material,

wherein the reaction mixture initially contains both free isocyanate groups and free alcoholic – OH groups, has a gel time greater than 768 seconds at 25°C, and a gel time less than 120 seconds at 175°C; and The reaction system according to claim 1,

wherein the polyisocyanate composition comprises one or more polyisocyanates of the MDI series, has a number averaged functionality of isocyanate groups in the range of from 2.3 to 2.9, and a free isocyanate group content in the range of from 10% by weight to 33.6% by weight.

6. (Currently amended) A reaction system for the preparation of a fiber reinforced composite according to the pultrusion process comprising:

(a) a reaction mixture comprising an isocyanate reactive composition, a polyisocyanate composition, and optionally one or more additives; and

(b) a continuous fiber reinforcing material,

wherein the reaction mixture initially contains both free isocyanate groups and free alcoholic – OH groups, has a gel time greater than 768 seconds at 25°C, and a gel time less than 120 seconds at 175°C; and The reaction system according to claim 1,

wherein the isocyanate reactive composition comprises a mixture of (i) from greater than 0 up to 20% by weight of at least one polyol having a number averaged molecular weight of 1500 or greater and a number averaged functionality of 2 to 4, (ii) 60 to 100% weight of at least one polyol having a number averaged molecular weight between 250 and 750 and a number averaged functionality of 3 to 4, and (iii) 2 to about 30% by weight of at least one polyol having a number averaged functionality of 2 to 3 and a number averaged molecular weight of less than 200; wherein the weights of (i) + (ii) + (iii) total 100% of the isocyanate reactive composition.

7. (Currently amended) A reaction system for the preparation of a fiber reinforced composite according to the pultrusion process comprising:

(a) a reaction mixture comprising an isocyanate reactive composition, a polyisocyanate composition, and optionally one or more additives; and

(b) a continuous fiber reinforcing material,

wherein the reaction mixture initially contains both free isocyanate groups and free alcoholic – OH groups, has a gel time greater than 768 seconds at 25°C, and a gel time less than 120 seconds at 175°C; and The reaction system according to claim 1,

wherein the isocyanate reactive composition comprises a mixture of (I) 60 to 100% weight of at least one polyol having a number averaged molecular weight between 250 and 750 and a number averaged functionality of 3 to 4, and (II) 2 to about 30% by weight of a least one polyol having a number averaged functionality of 2 to 3 and a number averaged molecular weight of less than 200; wherein the weights of (I) + (II) total 100% of the isocyanate reactive composition.

8. (Currently amended) A reaction system for the preparation of a fiber reinforced composite according to the pultrusion process comprising:

(a) a reaction mixture comprising an isocyanate reactive composition, a polyisocyanate composition, and optionally one or more additives; and

(b) a continuous fiber reinforcing material,

wherein the reaction mixture initially contains both free isocyanate groups and free alcoholic - OH groups, has a gel time greater than 768 seconds at 25°C, and a gel time less than 120 seconds at 175°C; and ~~The reaction system according to claim 1,~~

wherein the isocyanate reactive composition comprises a total of at least 10% by weight, relative to the total weight of the isocyanate reactive composition, of at least one hydrophobic polyol selected from the group consisting of hydrocarbon backbone polyols of number averaged molecular weight greater than 500, fatty ester polyols of number averaged molecular weight greater than 500, and fatty polyester polyols of number averaged molecular weight greater than 500.

9. (Original) The reaction system according to claim 8, wherein the at least one hydrophobic polyol is a fatty polyester polyol having a number averaged functionality of organically bound isocyanate-reactive hydroxyl groups of greater than 2.
10. (Original) The reaction system according to claim 9, wherein the additive comprises an organobismuth catalyst, an organozinc catalysts, or mixtures thereof.
11. (Original) The reaction system according to claim 9, wherein the additive comprises at least one organobismuth catalyst and at least one organozinc catalyst.
12. (Original) The reaction system according to claim 9, wherein the fatty polyester polyol is castor oil.
13. (Currently Amended) A reaction system for the preparation of a fiber reinforced composite according to the pultrusion process comprising:
 - (a) a reaction mixture comprising an isocyanate reactive composition, a polyisocyanate composition, and optionally one or more additives; and
 - (b) a continuous fiber reinforcing material,

wherein the reaction mixture initially contains both free isocyanate groups and free alcoholic – OH groups, has a gel time greater than 768 seconds at 25°C, and a gel time less than 120 seconds at 175°C; and The reaction system according to claim 1,

wherein the isocyanate reactive composition comprises castor oil and at least one other polyol.

14. (Currently Amended) A reaction system for the preparation of a fiber reinforced composite according to the pultrusion process comprising:

(a) a reaction mixture comprising an isocyanate reactive composition, a polyisocyanate composition, and optionally one or more additives; and

(b) a continuous fiber reinforcing material.

wherein the reaction mixture initially contains both free isocyanate groups and free alcoholic – OH groups, has a gel time greater than 768 seconds at 25°C, and a gel time less than 120 seconds at 175°C; and The reaction system according to claim 1,

wherein the additive comprises an organobismuth catalyst, an organozinc catalysts, or mixtures thereof.

15. (Currently Amended) A reaction system for the preparation of a fiber reinforced composite according to the pultrusion process comprising:

(a) a reaction mixture comprising an isocyanate reactive composition, a polyisocyanate composition, and optionally one or more additives; and

(b) a continuous fiber reinforcing material.

wherein the reaction mixture initially contains both free isocyanate groups and free alcoholic – OH groups, has a gel time greater than 768 seconds at 25°C, and a gel time less than 120 seconds at 175°C; and The reaction system according to claim 1,

wherein the additive comprises at least one organobismuth catalyst and at least one organozinc catalyst.

16. (Original) The reaction system according to claim 14, wherein the isocyanate reactive composition comprises a total of at least 10% by weight, relative to the total weight of the isocyanate reactive composition, of at least one hydrophobic polyol selected from the group consisting of hydrocarbon backbone polyols of number averaged molecular weight greater than 500, fatty ester polyols of number averaged molecular weight greater than 500, and fatty polyester polyols of number averaged molecular weight greater than 500.

17. (Original) The reaction system according to claim 15, wherein the isocyanate reactive composition comprises a total of at least 10% by weight, relative to the total weight of the isocyanate reactive composition, of at least one hydrophobic polyol selected from the group consisting of hydrocarbon backbone polyols of number averaged molecular weight greater than 500, fatty ester polyols of number averaged molecular weight greater than 500, and fatty polyester polyols of number averaged molecular weight greater than 500.

18. (Currently Amended) A reaction system for the preparation of a fiber reinforced composite according to the pultrusion process comprising:

(a) a reaction mixture comprising an isocyanate reactive composition, a polyisocyanate composition, and optionally one or more additives; and

(b) a continuous fiber reinforcing material,

wherein the reaction mixture initially contains both free isocyanate groups and free alcoholic - OH groups, has a gel time greater than 768 seconds at 25°C, and a gel time less than 120 seconds at 175°C; and The reaction system according to claim 1,

wherein the polyisocyanate composition comprises a total of at least 5% by weight, relative to the total weight of the polyisocyanate composition, of at least one isocyanate terminated prepolymer formed from a hydrophobic polyol selected from the group consisting of hydrocarbon backbone polyols of number averaged molecular weight greater than 500, fatty ester polyols of number averaged molecular weight greater than 500, and fatty polyester polyols of number averaged molecular weight greater than 500.

19. (Currently Amended) A reaction system for the preparation of a fiber reinforced composite according to the pultrusion process comprising:

(a) a reaction mixture comprising an isocyanate reactive composition, a polyisocyanate composition, and optionally one or more additives; and

(b) a continuous fiber reinforcing material,

wherein the reaction mixture initially contains both free isocyanate groups and free alcoholic – OH groups, has a gel time greater than 768 seconds at 25°C, and a gel time less than 120 seconds at 175°C; and The reaction system according to claim 1,

wherein the polyisocyanate composition comprises an isocyanate terminated prepolymer formed from a fatty polyester polyol having a number averaged functionality of organically bound isocyanate-reactive hydroxyl groups of greater than 2.

20. (Currently Amended) A reaction system for the preparation of a fiber reinforced composite according to the pultrusion process comprising:

(a) a reaction mixture comprising an isocyanate reactive composition, a polyisocyanate composition, and optionally one or more additives; and

(b) a continuous fiber reinforcing material,

wherein the reaction mixture initially contains both free isocyanate groups and free alcoholic – OH groups, has a gel time greater than 768 seconds at 25°C, and a gel time less than 120 seconds at 175°C; and The reaction system according to claim 1,

wherein the polyisocyanate composition comprises an isocyanate terminated prepolymer formed from castor oil.

Claims 21-34 (Cancelled)